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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,441	11/29/2003	Wade Lee	13.059	1202

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EXAMINER	
WILLIAMS, DON J	

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,441	LEE ET AL.	
	Examiner	Art Unit	
	Don Williams	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *18-20, 27* is/are allowed.

6)☒ Claim(s) *1-17 and 21-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-17, 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erismann in view of Schwarz, (5,393,978).

As to claims 1, 21, 22, Erismann discloses an aimable PIR motion detector (10), the motion detector (10) including a housing (12) having generally forward looking windows (22a, 22b, 22c), the motion detector (10) being structured and arranged to define a first plurality of infrared detection zones (24a, 24b, 24c) directed through generally forward looking windows (22a, 22b, 22c), detection zones (24a, 24b, 24c) of a first plurality forming a first zonal pattern extending in the generally forward direction and arranged for monitoring a far field at a far level of vision, and the housing (12) being movably mounted on a base member (8) to permit the far field to aim at various positions closer and farther away, wherein the improvement is characterized in that the housing (12) has a generally horizontal downward looking window (26) disposed at the underside (16) of the housing (12) and includes an optical arrangement (26a, 26b, 26c) focusing infrared energy from a second plurality of detection zones (28) through downward looking window (26), second plurality of detection zones (28) forming a

second zonal pattern (28) for monitoring a field underneath the motion detector (10), (see figure 1, figure 2, column 2, lines 31-67, column 3, lines 1-25). Erismann fails to disclose a second zonal pattern capable of monitoring a field behind a motion detector housing. However, Schwarz discloses a rearward looking optical system (20) having Fresnel lenes (21, 23) preferably angled by an angle (α) relative to the horizontal rear field of view of the detector (10). Schwarz further teaches that the rear field of view be directed at an angle (β) away from the vertical as suggested by the angle of Fresnel lens (23) in Fig. 2, (see figure 1, figure 2, column 3, lines 43-67). It would have been obvious for one ordinary skill in the art to modify Erismann to include a rearward looking optical system capable of being directed at an angle to form a plurality of detection zones as disclosed by Schwarz inorder to provide a wide field of view or far level of vision behind the motion detector to improve detecting capability and enhance the passive infrared sensor signal sensitivity allowing infrared emitting objects to be detected.

As to claim 2, the modified Erismann discloses first detection zones (24a, 24b, 24c) and second detection zones (28), (see figure 1, column 2, lines 31-49). The modified Erismann fails to disclose that the field behind the motion detector housing is monitored entirely by zones of second zonal pattern. Schwarz discloses that the sideward looking optical system (51, 53) together with the forward and rearward looking optical systems (18, 20) can be designed to provide a substantially 360° field of view to the sensor (14). Schwarz further teach that the actual field of view and the relative sensitivity of the detector in any selected direction may be varied, (see figure 3, column

5, lines 10-21). It would have been obvious for one ordinary skill in the art to further modify Erismann to include the arrangement as taught by Schwarz to improve the sensor signal to generate an alarm indicating the intrusion of an infrared emitting object being detected either in the rear, front, or beneath the detector.

As to claim 3, the modified Erismann discloses a first plurality of detection zones (24a, 24b, 24c) form a further zonal pattern extending in the generally forward direction and arranged for monitoring intermediate fields not so distant as far field, (see figure 1, column 2, lines 31-41).

As to claim 4, the modified Erismann discloses that the motion detector (10) comprises a dual element pyroelectric detector (20) structured and arranged to focus infrared energy from the first plurality of detection zones (24a, 24b, 24c) through the generally looking window (22a, 22b, 22c) onto the dual element pyroelectric detector (20) and to focus infrared energy from the second plurality of detection zones (28) through generally downward looking window (26) onto the dual element pyroelectric detector (20), (see figure 1, column 2, lines 31-62, figure 2, column 3, lines 1-13).

As to claim 5, the modified Erismann discloses a dual element pyroelectric detector (20) and a downward looking segmented Fresnel lens (26a, 26b, 26c) disposed to direct infrared energy onto a dual element sensor, (see figure 2, column 3, lines 6-9).

As to claim 6, the modified Erismann discloses segmented Fresnel lens member (26a, 26b, 26c) defines second zonal patterns (28), (see figure 2, column 3, lines 6-9). The modified Erismann fails to explicitly disclose a conical shape. It would have been obvious for one ordinary skill in the art to know that a conical shape formed by zonal

patterns is well known and that the conical shape normally constitutes the area being monitored by the motion detector.

As to claim 7, the modified Erismann fails to disclose a single downward looking sensor. However, the modified Erismann discloses a dual element pyroelectric detector (20) and a downward looking Fresnel lens (26a, 26b, 26c) located horizontally on the lower surface (16) of the housing (12), (see figure 2, column 2, lines 41-49). It would have been obvious for one ordinary skill in the art to aligned along a dual element pyroelectric detector (20) or a single sensor along a vertical or central axis in a downward direction to improve the detection zonal area or space defined by the zonal patterns.

As to claim 8 the modified Erismann discloses a dual element pyroelectric detector (20) capable of being angled toward opposite sides of the straight ahead directions to improve the detection of angulated detection zones, (see figure 2).

As to claim 9 the modified Erismann discloses second zonal patterns (28). The modified Erismann fails to explicitly disclose a conical shape. It would have been obvious for one ordinary skill in the art to know that a conical shape formed by zonal patterns is well known and that the conical shape normally constitutes the area being monitored by the motion detector.

As to claim 10, the modified Erismann fails to explicitly disclose that the second zonal patterns are curtain shape. It would have been obvious for one ordinary skill in the art to know that a curtain shape formed by zonal patterns is well known and that the curtain shape normally constitutes the area being monitored by the motion detector.

As to claim 11, the modified Erismann discloses a motion detector (10) that focus infrared energy from a plurality of detection zones (24a, 24b, 24c) through forward looking window (22a, 22b, 22c) on the dual element detector (20) and focus infrared energy from second plurality detection zones (28) through downward looking window (26a, 26b, 26c) on the dual element detector (20), (see figure 1, figure 2, column 2, lines 31-49). The modified Erismann fails to disclose one sensor. However, Schwarz discloses one sensor (14). It would have been obvious for one ordinary skill in the art to further modify Erismann to improve the sensor signal sensitivity allowing infrared emitting objects to be detected by the sensor.

As to claim 12, the modified Erismann discloses a motion detector (20) includes a segmented Fresnel lens member (26a, 26b, 26c) disposed in generally downward looking window (26) and formed to define second zonal pattern (28), (see figure 2, column 2, lines 31-49). The modified Erismann fails to explicitly disclose a curtain pattern. It would have been obvious for one ordinary skill in the art to know that a curtain pattern formed by zonal areas is well known and that the curtain pattern normally constitutes the area being monitored by the motion detector.

As to claim 13, the modified Erismann discloses that the second zonal patterns are projected behind the detector due to the Fresnels lens being preferably angled by an angle (α) relative to the horizontal to provide a wide horizontal field of view, (see Schwarz, column 3, lines 60-67).

As to claim 14, the modified Erismann discloses motion detector housing (12) and second zonal patterns (28). The modified Erismann fails to disclose that the

detection zones (28) of the zonal patterns extend backward or behind the motion detector. However, Schwarz discloses relative angle (α) with a horizontal rearward field of view. It would have been obvious for one ordinary skill in the art to further modify Erismann to include a relative angle (α) as disclosed by Schwarz to provide a wide field of view behind the motion detector to increase the detection zonal area or space, (see figure 1a, column 3, lines 57-67.

As to claim 15, the modified Erismann fails to explicitly disclose a characteristics angle at 14°. Schwarz discloses angles (α, β). It would have been obvious for one ordinary skill in the art to include a wide rear horizontal field of view of the motion detector (10) as disclosed by Schwarz to improve and define a wide angle to allow the motion detector (10) to detect emitting objects in an increased space or zonal area.

As to claim 16, the modified Erismann discloses a second plurality of detection zones (28) under the motion detector (10). The modified Erismann fails to explicitly disclose zonal pattern for dense coverage behind the motion detector. Schwarz discloses zonal patterns behind the motion detector. It would have been obvious for one ordinary skill in the art to modify Erismann to include a rearward looking optical system capable of being directed at an angle as disclosed by Schwarz to form a plurality of dense zonal patterns inorder to provide a wide field of view behind the motion detector to improve detecting capability and enhance the passive infrared sensor signal sensitivity allowing infrared emitting objects to be detected.

As to claim 17, the modified Erismann fails to disclose one level of vision per twelve degrees. Schwarz teaches a wide rear horizontal field of view of the motion

detector (10). It would have been obvious for one ordinary skill in the art to include a wide rear horizontal field of view of the motion detector (10) as disclose by Schwartz et al to improve and define a wide angle corresponding to angles (α, β) to allow the motion detector (10) to detect emitting objects in an increased space or zonal area, (see fig. 1, column 3, lines 52-68, fig. 1a, column 4, lines 10-65).

As to claim 23, the modified Erismann discloses a dual element pyroelectric detector (20) mounted on the support structure (8) wherein the sensors are angled toward opposite sides as constituted by the perpendicular detection zones (24a, 24b, 24c) and (28), (see figure 1, column 1, lines 31-50).

As to claim 24, the modified Erismann discloses second optical arrangement (26a, 26b, 26c) defines one or more focal lengths shorter than focal lengths of first optical arrangements (22a, 22b, 22c), (see figure 2, column 2, lines 31-50).

As to claim 25, the modified Erismann discloses that the first optical arrangement comprises one or more first segmented Fresnel lens members (22a, 22b, 22c) disposed to focus infrared energy onto one or more sensors (20) and a second optical arrangement comprises a second segmented Fresnel lens member (26a, 26b, 26c) disposed to focus infrared energy onto downward looking sensor, (see figure 1, figure 2, column 2, lines 31-67, column 3, lines 1-7).

As to claim 26, the modified Erismann discloses a second segmented Fresnel lens member (26a, 26b, 26c), first segmented Fresnel lens member (22a, 22b, 22c), shorter focal length normally corresponding to a downward looking sensor and a longer focal length normally corresponding to a forward looking sensor, both forming plurality

of detection zones (28), and (24a, 24b, 24c), (see figure 1, figure 2, column 2, lines 31-67). It would have been obvious for one ordinary skill in the art to include an arrangement as claimed or desired to improve the focus of the detecting sensor and increase the detecting sensibility of the sensor allowing objects to be detected at various angulated positions.

Response to Amendment

Applicant's arguments filed April 7, 2006 have been fully considered but they are not persuasive. The rejection of claims 1-27 has been modified to address the amendment to the claims.

With respect to the cited references of Schwarz and Erismann, the applicant states in the second paragraph of page 14, that neither reference show or suggest monitoring the region behind the motion detector primarily with detection zones emanating through one downward looking window while the front region is monitored with detection zones through forward looking window.

However, with respect to claim 1, the Schwarz reference (see column 5, lines 7-25) acknowledges that other window/aperture and reflector combinations could well be added to the invention to provide additional fields of view. For example, as shown in Figure 3, a pair of sideward looking optical systems (51, 53) having respective lenses (52, 54) and reflectors (56, 58) together with the forward and rearward looking optical systems (18, 20) can be designed to provide a substantially 360° field of view to the sensor (14). Schwarz also (see column 4, lines 27-30) teaches that the angles (offset

angle) at which the rearward looking optical system monitors the field may be varied as desired and may even allow for coverage greater than 180°. The arrangement as taught by Schwarz clearly suggests monitoring the region behind the motion detector with detection zones.

Additionally, with respect to the Erismann reference, although it does not explicitly show the detection zones behind the motion detector, it clearly shows in Figure 1 and Figure 2, detection zones (18) emanating through one downward looking window (16), while the front region is monitored with detection zones (24a, 24b, 24c) through forward looking windows (22a, 22b, 22c). With both references combined, the specific configuration or arrangement as claimed is obtained allowing the zonal pattern through the downward looking window to be angulated and disposed with a far level of vision for monitoring the field behind the motion detector housing when far field is aimed at various protection. Therefore, because of the reasoning set forth above, the rejection is proper.

Allowable Subject Matter

Claims 18-20, and 27 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach either singly or in combination a motion activated lighting fixture having backward detection zone characterized by a dip angle φdip and azimuth θ determined when housing is level, and plurality of backward directed

detection zones has no detection zones with a dip angle of less than φlimit, determined by relation tan φlimit = sin θ tan 50° regarding claim 18.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Don Williams whose telephone number is 571-272-8538. The examiner can normally be reached on 8:30a.m. to 5:30a.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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